

COPPER QUEEN OPEN MINE TO RIVAL UTAH

Experimental Mill Is Testing Samples From Holbrook Hill

Ore Consists of Various Sulphides of Copper, Principally Chalcocite, Pyrite and Chalcopyrite—Average From Early Tests Shows From One to Three Percent Copper—the Gangue of Granite Porphyry Nature—Description of Mill and Operation Churn Drills Prospect to Determine Depth and Quality of Ore in Sacramento Hill—Other Extensive Underground Works Explore Mountains Wealth—15,000 Feet of Hole Bored Into Hill—Capping Over Ore Is 100 Feet, Less Than Utah Copper

The wheels of the new experimental concentrator plant of the Copper Queen were put in operation on Thursday last, and while several minor adjustments will be necessary to insure successful operations it is contemplated that the plant will be operating to its full capacity of 120 tons within the next two weeks.

The results of this mill will be awaited with considerable interest on the part of mining men in this section, owing to the fact that the future of Sacramento hill as a large steam-shovel proposition is more or less dependent on the cost and percentage of recovery obtained through the process of this plant.

The ore to be treated will consist of various sulphides of copper, principally chalcocite pyrite and chalcopyrite, containing from one to three percent copper. The gangue from this ore will largely be of a granite porphyry nature.

ORE FROM HOLBROOK

The ore will be supplied from the Holbrook division where extensive operations have been conducted under the Sacramento hill, through the Neptune tunnel and 200 level of the Holbrook.

Upon its arrival at the mill the ore will be distributed into three receiving bins of fifty tons capacity each, from which it is received by a large Tolmuth conical crusher reducing it to an inch and one-half in size and delivering it to a bucket elevator, by which it is carried to another fifty ton bin. A small belt conveyor receives the ore from the second bin and carries it across to a larger belt conveyor from whence it is run over an automatic scale which registers the amount of ore handled during each shift.

SAMPLER REDUCTIONS

Leaving the scale the ore passes through the sampler and is reduced to one-tenth the amount before going over a two stage revolving trumble screen consisting of a three-quarter and three sixteenth inch mesh respectively. All of the oversize from the screens is run through a set of rolls and then back to the three sixteenth inch screen, after which it is separated, part running through a Flartz jig, the other part going over a National ruffer table. The tailings and middlings from the jig and table are then put through a classifier the fines of which are delivered to three conical settling tanks and the coarse run through a Hardinge conical mill after which another classification is made, the fines of which are delivered to the settling tanks on the coarse passed over an additional ruffer table and the tailings from these table are then carried to the settling tanks.

Directly under the settling tanks are situated two circular vanners which will handle the material from these tanks. This will complete the operation in its present stage, but an oil flotation process, to handle the tailings from the vanners is in consideration on the part of the company.

POWER FOR MILL

The power for the mill is supplied by one General Electric motor of 112 horse-power capacity, which operates the upper part of the plant consisting of the crush rolls, screens and jig and a ten horse power electric motor handles the lower end, consisting of the two tables and vanners.

In contemplation of the future success of the Sacramento hill project it would be well to make a comparison of the Utah copper companies operations which are undoubtedly the most successful and extensive of the kind in the world, having made a net earnings in the past six years of over \$25,000,000.

COMPARED TO UTAH COPPER

The ore bodies of the Utah Copper company are very similar to those of the Sacramento hill consisting of an altered siliceous porphyry, containing small veins of copper minerals, very uniformly disseminated throughout the mass, both in fracture seams and to the body of the rock, and averaging about two percent in copper. The primary copper mineral is chalcocite but as a result of oxidation of this mineral and secondary deposition of others, practically all of the sulphide minerals are now present, the predominance being chalcocite.

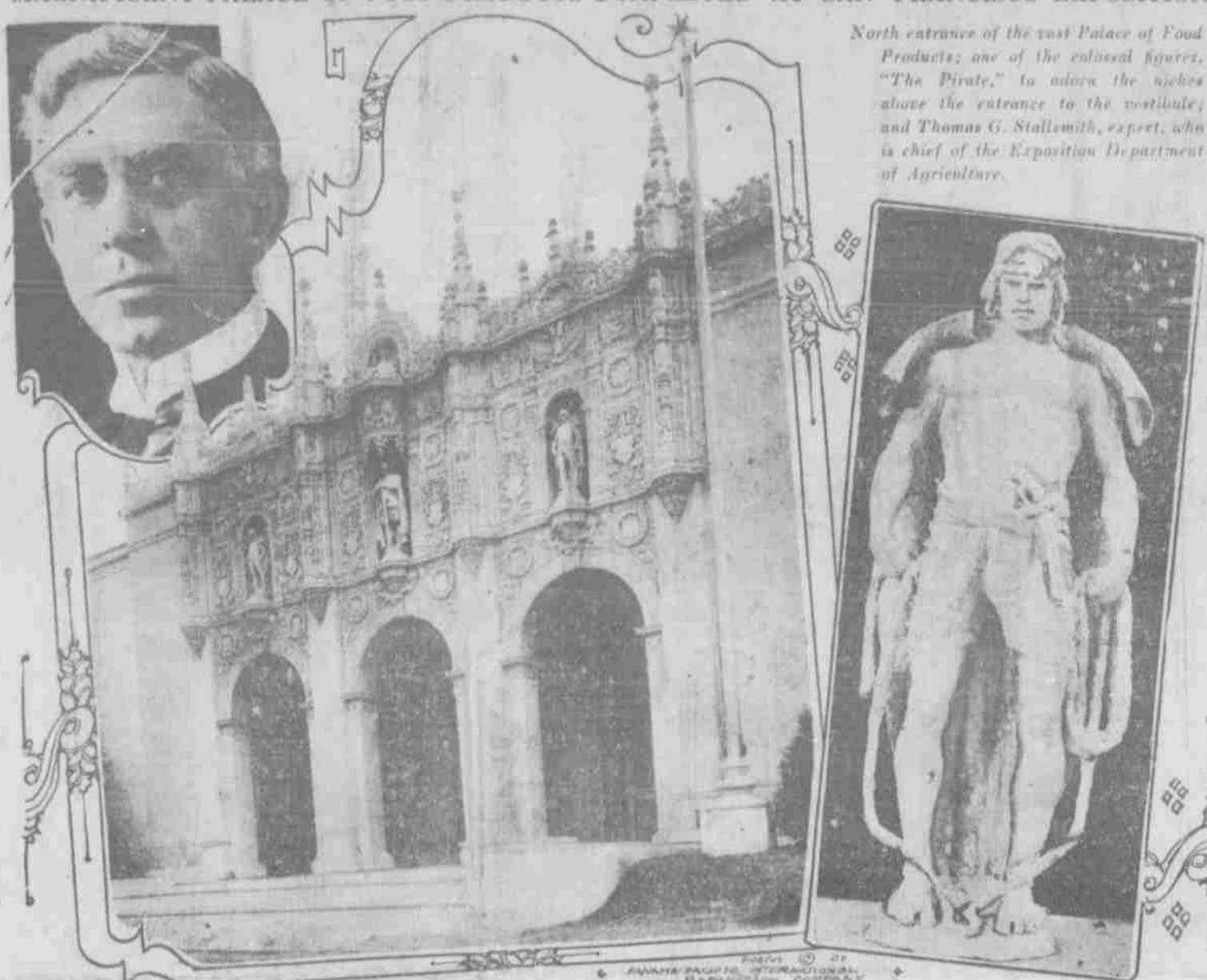
The treatment of the ores of this company are also similar to the process in progress at the Copper Queen plant, consisting of gyratory crushers, chilian mills and thirty-four inch diameter rolls for the fine crushing. The conchoidal mills and thirty-six inch diameter, for the fine crushing. The concentrating department is composed of Flartz jigs, Wilfley tables and vanners, together with the necessary elevators classifiers and conical settling tanks.

WARREN DISTRICT OUTLOOK

When it is considered that the average grade of ore in the past four years at the Utah property has only been 1.41 per cent and notwithstanding this low grade they have been able to pay in dividends in that time \$13,579,155.56 it gives one some impression of the wonderful opportunities of the future of low grade properties in this country and more so of the possibilities in store for the Warren District.

To facilitate the prospecting of Sacramento hill, being carried on through the Holbrook shaft and Neptune tunnel, three churn drills were put in operation to penetrate the hill from its top to the workings already developed in the Holbrook.

MAGNIFICENT PALACE OF FOOD PRODUCTS COMPLETED AT SAN FRANCISCO EXPOSITION



North entrance of the vast Palace of Food Products; one of the colored figures, "The Pirate," to adorn the niches above the entrance to the vestibule; and Thomas G. Stallsmith, expert, who is chief of the Exposition Department of Agriculture.

The most comprehensive display of food products in the world's history will be shown at the Panama-Pacific exposition. To the vital problem of increasing production and reducing the high living cost, one-fourth of the entire exhibit space is devoted. In addition to the Palace of Agriculture covering seven and one-half acres, a special Palace of Food Products, five and one-half acres, has been completed. Large areas in the Palace of Horticulture and Social Economy and other buildings will come under this heading. The Palace of Food Products has a floor area of 236,000 square feet and will cost \$342,000. Exhibitors are spending over a million on booths and decorations alone. Exhibits of processes in the rule. The government is spending a million on its exhibit. One of the elaborate pavilions accepted by Chief Stallsmith will cost \$80,000. This exhibit will show the entire history of bread from the field to the baker's oven. Also in the palace there will be the "bakery of nations," where every phase of the baking industry in all countries will be elaborated.

This prospecting by churn drills has been progressing very rapidly and while it is temporarily suspended in view of the uncertain conditions that prevail in the district at the present time there is no doubt but that it will be renewed with increased activity at the first indication of a recovery on the copper situation.

CHURN DRILL OPERATIONS

Since the work has been in progress thirty-six holes have been completed averaging 400 feet in depth and giving a total footage in the neighborhood of 15,000 feet.

The present installation consists of two Armstrong Electric churn drills and one steam drill of one hundred and twenty-five horse-power each. The drills were operated on three shifts of eight hours each, the crew consisting of a runner, helper and sample man for each drill.

The average footage drilled per machine per shift was between twenty-five and thirty feet, dependable considerably on the nature of the ground being penetrated. Samples are taken every five feet in depth, the results of which are plotted on a cross sectional map which enables the management to ascertain at a glance the copper contents of the ground in the various parts of the hill already perforated by the drills.

STATE CONDITIONS

General conditions in the mining camps throughout the state are much the same at the present time as they were one week past. Most of the copper camps have been forced to let out at least a part of their forces. Most of the camps have also been forced to cut wages of their employees to keep from closing their operations altogether.

Few of the camps have been forced to close completely. Cananea has closed. However, a combination of unhappy circumstances conspired to make the Sonora camp shut down, the least of which was the copper condition and the greatest of which was the lack of protection afforded the mine by the Sonora government.

GILA COUNTY WORSE HIT

Beyond doubt the worse hit of the mining districts of the state is in Gila county at the properties of the properties of the Miami Consolidated Copper company. In each of these, located at Miami, a second cut, almost as large as the first of the employees was forced, leaving the mines of each with barely enough hands to attend

the upkeep of the underground operations. Old Dominion, at Globe, has remained on the same basis as during the week previous, and announces that it will probably pull through without further curtailments of its operations or employees.

THE LOCAL CONDITIONS

Little change has taken place locally. While Copper Queen has been forced to curtail the pay checks of their salaried employees, and has been forced to drop a few more of the men employed underground, almost the same shifts in numbers are working at the present time as were in the employ of the company one week past.

The cut in the amount paid the salaried officials of the company is one of the major factors, according to the management, which is adding them. It was necessary to ward off the possibility of dropping more of their miners. A small number of miners, however, was released toward the end of the week. These releases were made due to the character of ore in which the

men were working and the demand of the smelter at Douglas. A slight raise in the minimum per cent of the ore treated was demanded by the smelter and as the company was working small crews in ore under the minimum these crews were forced out.

NEW DRILLS ARRIVE

Two new Armstrong Electric drills have arrived and with the addition of

these machines when the work is resumed it will not take long to complete the work now under consideration.

The capping over the ore body is somewhat variable in thickness, but estimate of the average for the whole hill would place it in the neighborhood of 100 feet while this appears to be considerable, the latest estimate of the capping at the Utah Copper property shows that they have there an even heavier an thicker capping to contend with. This, therefore should not offer a serious obstacle to the Copper Queen when they come to removing the layer of waste material above their body of ore.

SILVER SAVED

Silver mines throughout the country were saved from closing their doors during the week by the government when through the treasury department orders were issued for the purchase of the output of the silver mines of the country. At the time the orders were issued the mines of Utah were preparing to close their entire workings, and had the order come three days later it is probable it would have been too late to save the miners their positions.

While the silver mines of this state are not so numerous as are copper properties nevertheless, the order of the currency department of the government saves some of the mines in Arizona from closing, and offers at the same time a prospect for copper, by demonstrating that at all times there is a golden lining to the cloud.

GERMANS DRAWING IN

TIRLEMONT, Aug. 14.—The German troops are marching on with their front extending from St. Trond to Hasselt. Cavalry occupies a position to the right of Hasselt. Formidable defensive works have been erected by the Belgians around Namur. To eliminate the object for reprisals by the Germans, all inhabitants of Namur have been disarmed.

STOP ALL WORK AT RAINBOW LODE MINE

DULUTH, Minn., Aug. 15.—President Congdon of the Rainbow Lode Development company has issued the following statement: "The Rainbow Lode Development company has stopped all work for the present at both the Rainbow and Butte and London shafts. The suspension of work is only temporary, but it is impossible to say how soon business conditions will be such as to permit the company to carry on the additional development work which the property deserves. The directors do not consider it wise to continue expending the company's capital during times like these, when it is clear that more capital will be difficult to obtain for speculative and unproductive enterprises. Therefore, we propose to avoid the risk of requiring more cash while the business world is as demoralized as it is now."

EDWARD C. CONGDON,
President Rainbow Lode Development company.

FAMILIES BURY BELONGINGS, FLEE TO RIVER FROM FIRE

FERNIE, British Columbia, Aug. 14.—Forest fires continue to rage in this vicinity.

The town of Corbin was saved by the wind shifting when the fire was within fifteen yards of the coal mine tipple. The 300 men in the town were commandeered to fight the flames.

At Hosmer the people buried their belongings and the women and children were removed to the river for safety. The area burning is twenty miles square.

Twelve refugees reported hundreds trapped at Camp Six. Only three deaths from fires are reported.

JOHN D. NOT LIKE SAMSON

CLEVELAND, O., Aug. 14.—The John D. Rockefeller I knew—the one who wore a mustache—was a kind man.

Thomas Hayes, barber, who shaved off the oil man's mustache in July, 1906, does not believe that operation changed Rockefeller's temperament, if it has been changed.

"You know, Samson never was the same after Delilah cut his hair," it was suggested.

Hayes went to Rockefeller's home every morning for ten years to shave him before breakfast. "And he always was good natured and pleasant," said the barber. When he shaved off the oil king's mustache Mr. Rockefeller put it in an envelope.

LIEGE FORTS RESISTING

LONDON, Aug. 14.—Fort Pontisse and neighboring forts west of Liege, are resisting the fierce German attack, according to the Brussels correspondent of the Exchange Telegraph. The Germans, trying to rush Fort Pontisse, no longer relying on siege artillery, were unable to get beyond the glacis of the fort, where they were mowed down by the defenders' fire. The besiegers brought mattresses and bundles of wood with which to fill the ditches about the fort, but were unable to use them.

ENTHUSIASTIC ABOUT RECENT DEVELOPMENTS

WALLACE, Idaho, Aug. 15.—W. W. Russell president and general manager of the Great Western Mining company, in a report to local officials of the company, is very enthusiastic concerning recent developments at the property located near Wallace, Idaho. Tunneling has been continued for a distance of several hundred feet and recent work has uncovered what is thought to be a large body of ore at the tunnel level. An 18-inch shoot of high grade ore, almost clean enough to ship, has been opened, according to Manager Russell, and there is a vein averaging in width from eight to ten feet, containing good grade milling material.

Plans of the management for sinking a shaft on this ore and a crew of men has already started work. Small values in silver and gold have been found with the copper bearing rock, and Manager Russell believes that the company has the making of a good mine. The plant is equipped with a compressor and electric power.